

Notes on the Systematy of Malayan Phanerogams XI-XVII*

from

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Abstract

Xylopia malayana var. *obscura* is a new variety.

The genus *Tabernaemontana* s.l. is preferred to its segregates.

New synonyms are proposed in *Leptopus australis*, *Glochidion brunneum*, *G. penangense*, *G. wallichianum*, *G. zeylanicum* var. *malayanum*, *Baccaurea motleyana*, *Blumeodendron tokbrai*, *B. borneense* and *Suregada multiflora*. *Glochidion trilobum* is a mixtum compositum. Three species are reduced to varieties:—*Austrobuxus nitidus* var. *montanus*, *Agrostistachys longifolia* var. *leptostachya* and *Trigonostemon verticillatus* var. *salicifolius*. *Endospermum diadenum* (formerly *malaccense*) has peltate leaves in youth. *Alchornea tiliifolia* is annotated.

Scaphocalyx parviflora is reduced to *S. spathacea*, making the genus monotypic.

Burkilliodendron was published 8 months earlier than *Alloburkillia* as a new name for *Burkillia* Ridley.

Glycosmis calcicola and var. *kelantanica* are new from limestone.

Pentace excelsa, *P. grandiflora* and *Schoutenia furfuracea* are new Tiliaceae from the east coast.

XI. Annonaceae (b)

K. M. KOCHUMMEN

Xylopia malayana Hk. f. et. Thoms. var. **obscura** Kochummen var. nov.

A varietas typica in folliis apice latiore brevior, subter nervis lateralibus et reticuliis obscuris differt.

TRENGGANU: Ulu Brang FRI 12594 (holotype of var. KEP!; A, K, L, SING).

PAHANG: Raub KEP 20309.

JOHORE: Rengam F. R. FRI 2188; G. Arong F. R. FRI 2761.

XII. Tabernaemontana (sens. lat.), Apocynaceae

T. C. WHITMORE

I follow Hallier (Bot. Jahrb., 49, 1913, 372-5), Merrill (Contrib. Arn. Arb. 8, 1934, 143-4) and Corner (Gdns' Bull. Str. Settl. 10, 1939, 276) in recognising *Tabernaemontana* L. in the broad sense and not its segregates *Ervatamia* (DC.) Stapf and *Pagiantha* Mg.

* Continued from Gdns' Bull. Sing. 24, 1969, 1-11; Fed. Mus. J. 13, 1970, 133-7.

I agree with these authors that there are species in the East, including Malaya, which transgress the differences between the segregate genera some of which are weak. There is also an important practical obstacle to the recognition of the segregates, that without careful re-examination of type material it is not clear to which segregate genus a species belongs; Markgraf (Notizbl. Berl. Dahlem 12, 1935, 540–52) who favours splitting has not himself seen all the types, few are represented in Singapore, and three species of *Ervatamia* (*E. curtisii* King & Gamble, *E. jasminiflora* Ridley and *E. pauciflora* Ridley) are not represented at all.

Malesian *Tabernaemontana* is clearly in need of revision and for the *Tree Flora of Malaya* only the trees can be satisfactorily described.

XIII. Euphorbiaceae

T. C. WHITMORE

Minor adjustments to taxonomy which need no commentary appear in the text of the account in vol. 2 of *Tree Flora of Malaya*. More substantial changes and those needing discussion are made below. Other changes have been made by Airy Shaw and will appear in the series Notes on Malesian and other Asiatic Euphorbiaceae in the Kew Bulletin. The genera are in the sequence of the Pflanzenreich monograph.

Leptopus

Leptopus australis (Zoll. & Mor.) Projarkova Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 20 (270) 1960

L. hirta (Ridley) Projarkova loc. cit. 271 **syn. nov.**

L. calcareus (Ridley) Projarkova loc. cit. 271 **syn. nov.**

Andrachne hirta Ridley Kew Bull. 1923, 361 (type Ridley 14883 ! K, ! SING)
Andrachne calcarea Ridley loc. cit. 362. (syntypes Ridley 8203, Robinson 6201, Annandale 1835 ! K)

This genus has been known in Malaya as *Andrachne*. I am unable to distinguish Ridley's two species. The type of *L. (A.) hirta* is indeed very hairy (as the epithet implies) on leaf and twig but this condition merges via a long series of collections into the glabrous condition of *L. australis*. *L. (A.) hirta* is also a small-leaved form; this is of no taxonomic significance. *L. (A.) calcarea* has the leaves rather blunter at base and apex but I can see no sharp distinction against *L. australis*. I therefore formally propose the reduction of these optimistically proposed entities. Gage in J. & Proc. As. Soc. Beng. 75 (1936) 522–3 cited all the collections under *Andrachne fruticosa* Decne. (non Linn.) which is *L. australis* and Henderson (J. Mal. Br. Roy. As. Soc. 17, 1939, 68–9) doubted if Ridley's species could be maintained.

Glochidion

Too many species have been based on too few collections. The following rationalisations are possible.

Glochidion brunneum Hk. f. Fl. Brit. Ind. 5 (1887) 312.

G. goniocarpum Hk. f. loc. cit. **syn. nov.**, type King's Collector, Singapore (! SING).

G. pedunculatum Ridley Kew Bull. (1923) 364, non Merrill Philip. J. Sci. Bot. 11, 1916, 67 **syn. nov.**, type Ridley 8952 (! SING); 8952 *a* (! SING).

These two rare species both known from single collections come well within the range of variation of the commoner *G. brunneum*.

G. penangense (M.A.) Airy Shaw Kew Bull. 23 (1969) 6.

G. villicaule Hk. f. Fl. Brit. Ind. 5 (1887) 326 **syn. nov.**, syntypes Griffith (K.D.) 4842, *Scortechini*, Perak (! K).

G. coronatum Hk. f. *loc. cit.* nomen illegit., see Airy Shaw *loc. cit.*, type Wallich 1849 (! K).

I have compared the Perak syntype of *G. villicaule* with the type of *G. coronatum* Hk. f. and can see no difference.

G. trilobum Ridley Kew Bull. (1923) 364.

This is a *mixtum compositum*. The two syntypes on which the species is based are correctly placed as follows:

Ridley 8440, Singapore Garden, is *G. microbotrys* Hk. f., differing only from typical material of the latter in its densely pubescent fruits, which however is a condition approached by some of the many sheets of *G. microbotrys* at K. Burkill SFN 7004, Negri Sembilan, Tampin, is typical *G. wallichianum* M.A.

Baccaurea

Baccaurea motleyana (M.A.) M.A. in D.C. Prodrum 15 (1866) 461. *B. pubescens* P. & H. Pflanzenreich IV x V (1922) 251 **syn. nov.**

B. pubescens is known solely from Wawra 297a, Singapore. No one has ever found it since and the collection, at Berlin, is now burned. The description could well be of *B. motleyana*, as Ridley (Flora 3, 1924, 251) points out, which is a species found in cultivation throughout the Peninsula and offshore islands. I agree with Ridley and go one step further in reducing *B. pubescens* to synonymy. That Pax and Hoffmann put it in section Calyptrone, not Pierardia, is of no consequence, for the sections differ in the bracts of the male inflorescence and Wawra 297a was from a female tree.

Austrobuxus

Two species of *Austrobuxus* have been recognized in Malaya where they have been called *Longetia*. *L. malayana* (Benth.) P. & H. is a widespread species of the lowlands. *L. montana* Ridley was described from 3300 ft, on G. Tahan; it differs in having smaller, retuse, very leathery leaves and in its typical form is highly distinctive; I extend its range to G. Benom and G. Ulu Kachau, also in Pahang, and observe that on G. Jerai (Kedah), at 4000 ft, on G. Padang (Trenghganu) and at 3400 ft in the Ulu Nenggiri (Kelantan) *L. malayana* grows, so *L. montana* does not replace the other in the mountains. Moreover KEP 15085 from near the sea at Baloh F.R. Pahang approaches *L. montana* in leaf.

Austrobuxus is an earlier name than *Longetia* and a move to conserve the latter failed. *L. malayana* now becomes *A. nitida* Miq. For the first time I transfer *L. montana* to *Austrobuxus*, but because it differs solely in leaf characters which are to some extent overlapping I consider it to be merely a variety; a few specimens cannot clearly be placed in one taxon or the other.

Austrobuxus nitidus Miq. var. **montanus** (Ridley) Whitmore **stat. nov.**

Basionym — *Choriophyllum montanum* Ridley in J. Linn. Soc. Bot. 38. (1907) 322. Type Robinson 5434.

Synonym — *Longetia montana* (Ridley) P. & H. in Pflanzenreich XV (1922) 291.

Agrostistachys

Agrostistachys longifolia (Wight) Benth. Gen. Pl. 3 (1880) 303.

A. longifolia var. *malayana* Hk. f. Fl. Brit. Ind. 5 (1890) 407.

A. longifolia var. *latifolia* Hk. f. loc. cit.

A. borneensis Becc. Nelle foreste Borneo (1902) 331.
(1902) 331.

A. sessilifolia (Kurz) P. & H. Pflanzenreich IV 147 VI (1912) 100.

A. latifolia (Hk. f.) P. & H. loc. cit.

The full synonymy is given in the Pflanzenreich account. Hooker recognized two varieties and these were later raised to species by Pax & Hoffmann. The abundant Malayan material now to hand at Kepong and Singapore shows that there is a continuous range of variation, which also includes the Indian material at Kew including the type of *A. longifolia*.

A. longifolia var. **leptostachya** (P. & H.) Whitmore stat. nov.

A. leptostachya Pax & Hoffmann loc. cit. 102 syn. nov.

This is a very distinctive form with short filiform spikes, which tend to be in cauline tufts, these features being more marked on male trees. All intermediates to typical *A. longifolia* with long, stout, solitary, axillary spikes exist. I therefore reduce *A. leptostachya* but retain it as a variety to draw attention to the polymorphism of the species, which my forest observations indicate might correlate with geographical distribution, and tree construction. *KEP 94699* is almost exactly intermediate.

A. leptostachya was described from Sarawak and is well represented at Kew. Typical collections are:

MALAYA, PERAK: *FRI 625, 647, 671.*

PAHANG: *SFN 28763, FRI 4734, 4907, Wong & Wyatt-Smith 35, KEP 8955.*

KEDAH: *KEP 4641.*

Locality unknown: *KEP 98304.*

Trigonostemon

Trigonostemon verticillatus (Jack) Pax var. **salicifolius** (Ridley) Whitmore stat. nov.
Trigonostemon salicifolius Ridley Kew Bull. (1923) 366 syn. nov. (type Ridley s.n. Selangor Batu Caves, !K).

Ridley's species seems to be no more than a central Selangor form of *T. verticillatus* with leaves oblong (as opposed to elliptic) and often small, for we now have collections from Kanching, Bt. Lagong and Ulu Gombak as well as Batu Caves. It is interesting that two collections from the hills of Lower Perak have oblong (but big) leaves. Varietal status keeps this form in view, and a biosystematist might find it interesting to investigate it more closely, especially in view of its disjunct distribution. It grows on hills once lapped by the Pleistocene sea.

SELANGOR Batu Caves: *Ridley s.n. (type) Bt. Lagong: Poore 1062 (K); Kanching: KEP 21258 (KEP) Ulu Gombak: KEP 18167 (KEP, K), Hume 9015 (SING) PERAK Scortechini 702 (K) (locality?); Briah Larut: Wray 4204 (K, SING); Telok Kopia F.R. FRI 3112 (KEP).*

Alchornea

Alchornea tilifolia (Benth.) M.A.

I reject *Evans* s.n. Aug 1917 Pahang, Labong, Endau but add *Kunstler* 166, mounted at Kew with *Scortechini* (received 1888), which is *A. villosa*. Thus the species is still known from one collection only. The label of the *Kunstler* sheet has no locality and merely says Flora of the Malay Archipelago, but is probably one of his first collections from Johore, G. Pantii.

Blumeodendron

Blumeodendron tokbrai (Bl.) J. J. Smith Meded. Dept. Landbouw. 10 (1910) 12, 460.

Mallotus? vernicosus Hk. f. Fl. Brit. Ind. 5 (1890) 443.

B. vernicosum (Hk. f.) Gage Rec. Bot. Svy. Ind. 9 (1922) 244 **syn. nov.**

B. elateriospermum J. J. Smith Bull. Jard. Bot. Buitenz. sér. 3, 28 (1912) 56.

B. tokbrai is a widespread polymorphic species, first recorded for Malaya by Henderson (Gdns' Bull. Str. Settl. 7, 1933, 124) into which merges *B. vernicosum*. I can find no disjunctions in habitat or morphology amongst the abundant material at Kepong to justify retaining two species

B. borneense Pax & Hoffmann in Engler Pflanzenreich IV 147 XIV (1919) 14.

B. concolor Gage Rec. Bot. Svy. Ind. 9 (1922) 244 **syn. nov.**

The latter is known in Malaya from only two collections, *Curtis* 1368 Pangkor (type !K) and *Haniff* 15472 Langkawi (!SING, !K). It differs from the type of *B. borneense* (Beccari 2976 !K) in its slightly larger, more ovate, more strongly nerved leaves, but this is well within the range of *B. borneense* now abundantly represented at Kew from northern Borneo.

Endospermum

Endospermum diadenum (Miq.) Airy Shaw Kew Bull. 14 (1960) 395.

E. malaccense M.A. Flora 47 (1864) 469.

I am able amply to confirm Airy Shaw's suspicions that *Melanolepis diadena* Miq. Fl. Ind. Bat. Suppl. (Fl. Sum.) (1865) 455 is indeed none other than "an extreme, perhaps juvenile, form of *E. malaccense*", which has spreading straight hairs and no stellate hairs. The confirmation is based on four pieces of evidence:

- (1) the, by now numerous, collections made by the Kepong staff of young *E. malaccense*.
- (2) the rich collection at SING of juvenile *E. malaccense* made by Corner, and which Airy Shaw did not see and K has not got in duplicate.
- (3) the thorough analysis by Corner in Gdns' Bull. Str. Settl. 10 (1939) 296 of variation with age of leaf hairiness, an analysis apparently not known to Airy Shaw when he wrote.
- (4) two of the three Malayan collections of *E. diadenum* cited by Shaw are indeed from juveniles.

There is therefore no alternative but to rename the common well known sesendok of Malaya, and use a new name based on a single unattached leaf, a sterile specimen from a juvenile plant. The rigid application of the rule of priority in this case is distressing and in the account of Euphorbiaceae for the

Tree Flora I have no compunction in recommending Malayan foresters to continue to use the epithet well known for over half a century. My justification for this course is set out in full in the Prologue to the *Tree Flora*, vol. 1.

Over the years collections of *Endospermum* from the Peninsula with peltate leaves have accumulated. Corner stated that juvenile plants of *E. malaccense* never have peltate leaves and referred these collections to *E. moluccanum* Becc., an east Malesian species, from which they differ in not possessing hollow ant-inhabited twigs. None of these peltate-leaved collections is fertile, all are from saplings or poles or small to medium trees to 70 ft tall. I consider them merely a juvenile stage of *E. malaccense*. *FRI* 770 from Slim Hills Perak, 50 ft tall, 2 ft girth, seems to clinch this conclusion, it too is sterile and possesses leaves strongly peltate, weakly peltate and apeltate. Forest observations show that *E. malaccense* usually but not always has peltate leaves in youth. At Kepong we have two seedling collections (*FRI* 29, 1005) and two collections of 20 ft saplings (*FRI* 11, 4787) which are not peltate and *FRI* 336, 560, 768, 864, 2212, *KEP* 98546, 115652 which are strongly peltate.

In conclusion, there is no evidence that *E. moluccanum* or the peltate Borneo species *E. peltatum* Merr. occur in Malaya. Our material can most simply be accounted as juvenile *E. malaccense*.

Suregada

I am unable to detect any consistent differences between the four species referred to this genus (as *Gelonium*) by Ridley (Flora 3, 1924, 310–2).

In the first place, *Gelonium tenuifolium* Ridley must be reduced.

In the second place, the widespread continental species *G. multiflorum* Juss. merges into *G. glomerulatum* Hassk. of the Malesian archipelago here in Malaya where the ranges overlap.

In the third place, Corner (Gdns' Bull. Str. Settl. 10, 1939, 299) found *G. bifarium* Roxb. impossible to recognize in the Peninsula, and I agree.

I refer all collections made in Malaya to *S. multiflora* (Juss.) Baill., the earliest published species, but without study of types and material from the whole range of the complex can make no formal decision except:

Suregada multiflora (A. Juss.) Baill. Ét. Gén. Euphorb. (1858) 396.

Gelonium tenuifolium Ridley J. Roy. As. Soc. Str. Br. 59 (1911) 181 (type Ridley 15902 ! K,! SING) **syn. nov.**

In addition to the above, *S. angustifolia* (Miq.) Airy Shaw has once been collected in Malaya. It is quite distinct.

XIV. Flacourtiaceae

T. C. WHITMORE

Scaphocalyx

Scaphocalyx spathacea Ridley J. Bot. 58 (1920) 149.

S. parviflora Ridley *loc. cit.* **syn. nov.**

Most of the flowers at Kepong herbarium have been eaten by insects, but *KEP* 99478 from the Bt. Lagong population retains a few buds; some are 3 mm long on 4 mm pedicels, on another cluster they are 23 mm long on 15 mm pedicels; the collection thus spans both Ridley's species and demonstrates that the flower size difference is accounted for by the different stages of development of the flowers when collected.

XV. Leguminosae (c)

T. C. WHITMORE

Burkilliodendron Sastry Bull. Bot. Surv. India 10 (1969) 243.*Burkillia* Ridley Fl. Mal. Pen. 5 (1925) 304, non *Burkillia* West & West (1907).*Alloburkillia* Whitmore Gdns' Bull. Sing. 24 (1969) 4 **syn. nov.****Burkilliodendron album** (Ridley) Sastry loc. cit.*Burkillia alba* Ridley loc. cit.*Alloburkillia album* (Ridley) Whitmore loc. cit. **syn. nov.**

Sastry's new name for Ridley's genus was published on 3 Jan. 1969, my own on 9 Aug. 1969. Ridley describes the plant as a shrub, and the legitimate name is therefore a misnomer.

XVI. Rutaceae

B. C. STONE (University of Malaya)

Glycosmis**Glycosmis calcicola** B. C. Stone, **sp. nov.****Fig. 1***G. parkinsonii* var. *ovatifoliolis* Tanaka, in herb. KEP and SING. ? Ined.

Frutex inermis ad 1–2 m altis, ramis divaricatis, ramulis gracilibus, 1–2 mm crassis, juventute tomentellibus, trichomiis rufidulis 1–3-cellularibus acutis, maturitate rufo-brunneis glabratis minute striatis; *foliis* imparipinnatis, petiolo 9–20 mm longo, minute tomentello glabrescentio; *foliolis* 1–5, alternatis vel suboppositis, tenuiter coriaceis, ovalis vel obtuse-ellipticis, 1.7–7 cm long, 0.9–4.3 cm latis, apice obtuso, vel plerumque emarginato-retuso, base rotundato vel obtuso, dorso in costa puberulento, costa infra prominulento, supra subdepresso-canaliculato, nerviis lateralibus utrinque 4–7, lamina minute glanduloso-punctulato. *Inflorescentia* rufotomentella, axillaris, parvis, cymosis, 3–7-floriferis, pedunculo perbreve ad 2 mm longo, pedicellis 1 mm longis minute bracteolatis. *Calyx* 4-lobatus cupuliformis lobis 1.5 mm longis late deltoideis rotundato-obtusis. *Petala* 4 ovata utrinque acuminata alba dorso rufotomentella (plerumque in portione medio) et ciliolulata, intus glabra, 3.2×1.5 mm. Stamina inaequalia, 4 longiora (filamentis 3 mm longis) petalis aequantia, 4 breviora (filamentis 2.5 mm longis); filamentis oblongis complanatis apice abrupte acuminatis, distaliter (sub anthero) subsparse puberulo; antheris glabris late cordatis 0.7–0.9 mm longis. *Gynoeceium* disco glabro albo 2 mm alto; ovario lente quadrangulato obclavato 1.7–1.8 mm longo subsparse glanduloso supra medium puberulento; stigma truncato non expanso 0.2–0.25 mm lato; loculis 4; ovulis elongatis solitariis pendulosis. *Fructus* baccatus parvus ad 1 cm longus ovoideus vel subellipsoideus apiculatus, pericarpio tenue, semina plerumque singulo, cotyledonis viridis crassiter plano-convexibus punctatis 6 mm longis, plumulo perminute albo-pilosulo.

Holotypus: MALAYA. Selangor: Kanching Distr., Gua Anak Takun, limestone hill near Templer Park, 500 ft. alt., 21 Sept. 1969, *B. C. Stone* 8789 (KLU; isotypes A, BISH, K, L, SAR, SING, TNS).

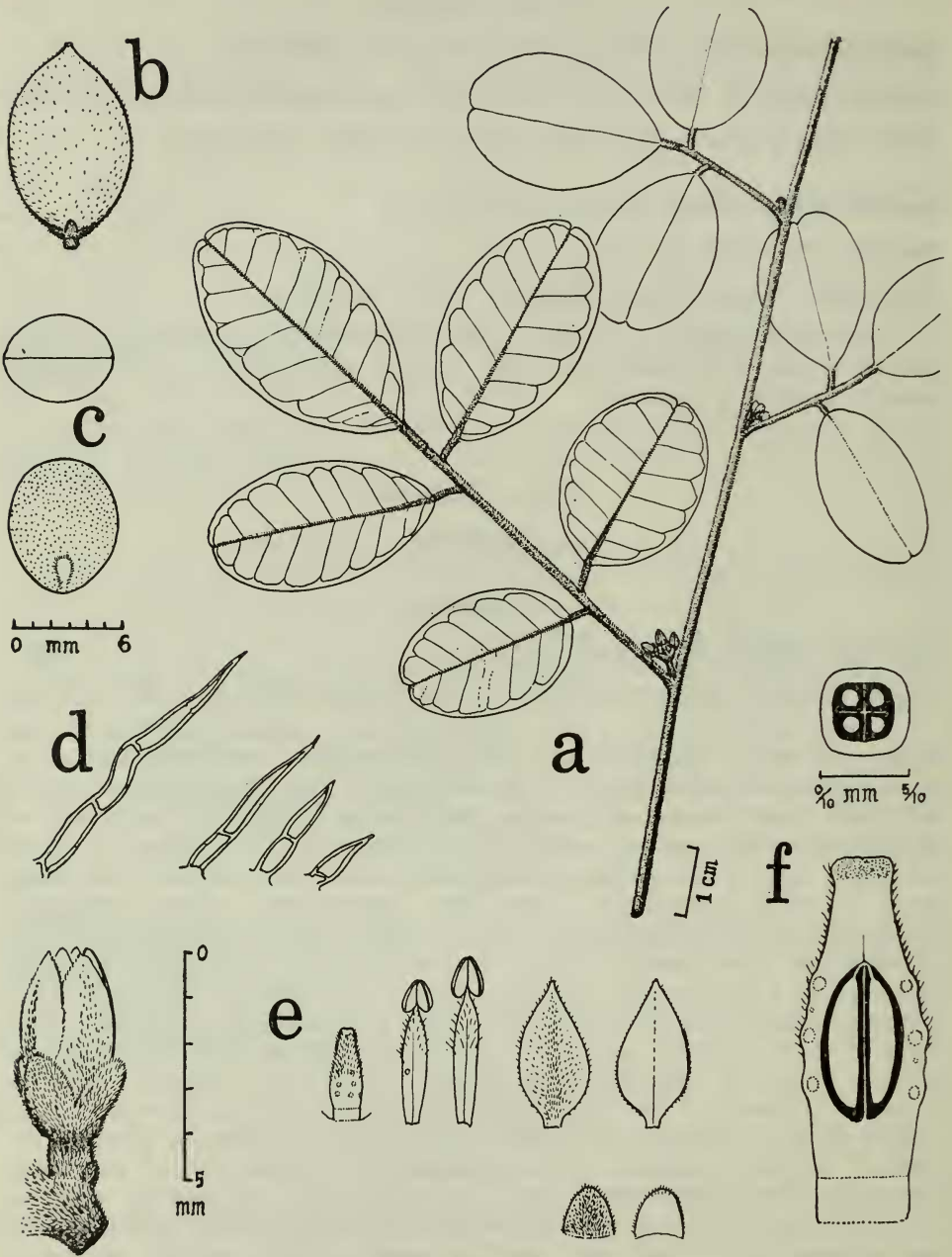


Fig. 1. *Glycosmis calcicola* Stone (BCS 8789, type); a: habit; b: fruit; c: seed; d: hairs; e: flower, bud and parts; f: ovary.

Further specimens examined: MALAYA: Selangor; Bukit Takun, 8 May 1925, *Symington KEP 39586* (KEP). Chanching, 16 March 1935, *Symington KEP 37407* (KEP); 5 Nov. 1940, *Reid KEP 51681* (KEP), 23 Dec. 1963, *Sow KEP 94745* (KEP). Bukit Takun, 18 Feb. 1937, *Symington & Henderson KEP 43289* (KEP). Bukit (Gua) Takun, limestone hill, 900 ft. alt., 11 July 1965, *B. C. Stone, Y. K. Wong, P. C. Lee & G. B. Evans BCS. 5907* (KLU). Gua Batu ("Batu Caves"), 28 Dec. 1969, *B. C. Stone & P. R. Wycherley s.n.* (KLU). Gua Anak Takun, 31 July 1968, *Whitmore FRI 12165* (KEP). Perak, Lenggong, G. Runta, 300 ft. 11 June 1930 *Henderson SFN 23819* (SING KEP). Kedah: Pulau Langkawi, Kuala Kelim, 4 May 1938, *Symington KEP 46792* (KEP), 46794 (KEP). Batu Ayam, 19 Nov. 1941, *Corner SFN 37838* (KEP).

This species appears to be distinct from most or all others in the genus by its small ovate-emarginate leaflets. It is similar in most floral details to *G. parkinsonii* Tanaka (of Burma), though the typical variety differs in its glabrous anthers; in addition, the usually more numerous leaflets and the emarginate or retuse leaflet tips and different leaflet shape, seem to confer specific rather than varietal status as concluded by Tanaka. The species apparently is restricted to limestone.

***G. calcicola* var. *kelantanica* B. C. Stone, var. nov.**

A varietas typica in foliolis plerumque duplo vel triplo magnioribus, petalis latioribus, antheris pilosulis, differt; cetera simillima.

Holotypus: MALAYA: Kelantan; S. Nenggiri, Gua Jaya at Kuala Jenera, limestone hill, 27 July 1967, *T. C. Whitmore FRI 4255* (KEP).

Further specimen examined; Kelantan, Gua Musang, 15 Aug. 70, *Stone 9521* (KLU).

According to Tanaka, there is a variety of *G. parkinsonii* in Sumatra; I have not seen this and thus do not know whether it might belong to *G. calcicola*.

G. calcicola is not uncommon where it occurs. It is probably to be found on some if not all of the other limestone hills in the country, but many of these have never been botanized or perhaps even climbed.

The specific epithet *calcicola* indicates the occurrence of this plant exclusively on limestone.

Tanaka, who was apparently in control of much information concerning *Glycosmis*, published *G. parkinsonii* Tan. in *Studia Citrologica* 2: 25, 1928, and in the *Journal of Botany* (ed. Rendle) 68: 227, 1930. In both the herbaria of Kepong and Singapore a number of sheets of the species described above are named with tickets reading "*Glycosmis parkinsonii* Tan. var. *ovatofoliolis* Tanaka" but nowhere can I find any publication of this name. It is not listed in the exhaustive "Catalog of Genera, Species and subordinate taxa in the Orange subfamily Aurantoideae (Rutaceae)" by Carpenter and Reece (Crops Research, Agricultural Research Service, U.S. Dept. of Agriculture ARS 34-106, May 1969). In the Jour. Bot. paper mentioned above, Tanaka says: "A trifoliolate variety occurs in Sumatra, which will be described elsewhere." However, the Malayan plants are not mentioned. It appears that the variety *ovatofoliolis* is a *nomen nudum* appearing only on herbarium labels.

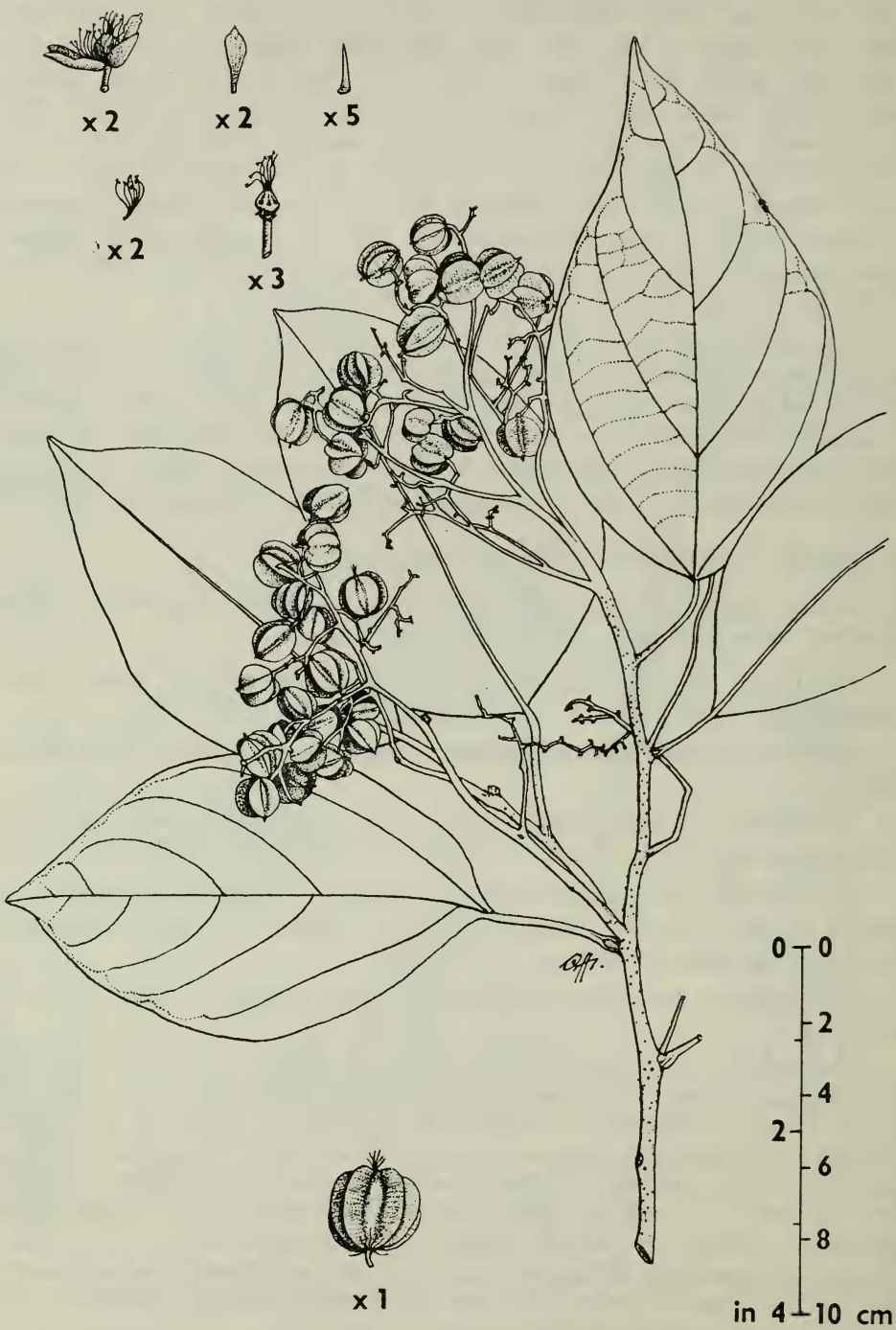


Fig. 2. *Pentace excelsa* Kochummen (FRI 10880).

XVII. Tiliaceae

K. M. KOCHUMMEN

Colona

Colona merguensis (Planch. ex Mast.) Burret Notizbl. Bot. Gard. Berlin-Dahlem 9 (1926) 807.

Columbia curtisii Ridley J.R. As. Soc. Str. Br. 57 (1911) 26 **syn. nov.**

Columbia diptera Ridley ibid. 59 (1911) 78 **syn. nov.**

Dr. P. S. Ashton in an unpublished manuscript deposited in the Forest Office, Kuching has noted this synonymy with which I concur. He observes that 'Ridley's two species are similar to *C. merguensis* though its type has narrower leaves than usual. When the achene dehisces adjacent valves from adjacent wings remain attached. *Ridley 15221*, type of *C. diptera*, possesses only these united valves, no entire achenes, hence Ridley's observation that the fruit was '2 winged'; this is the only significant difference between it and *Curtis 3692* type of *C. curtisii*'.

Pentace

Pentace excelsa Kochummen **sp. nov.**

Fig. 2

Arbor maxima, 60 m alta, foliis coriacei, ellipticis vel ovato ellipticis, apice acuminato, basi acuto vel rotundato, supra glabra, subtus perdense stellato-lepidotis, nerviis lateralibus 4 — paribus; paniculis minute stellato-piloso-lepidotis; pedicellis conspicuis; phalangiis staminorum 5, staminodiis in basi abrupte rotundato-ovatis, parte apicale filiforme; ovario dense stellato-lepidoto, 7-8 costato, stylis 7-8 libris, lepidotis; fructibus 7-8 alatis, minutissime stellato-lepidotis, stylis libris. TRENGGANU: Ulu Sg. Loh *FRI 10686*, *FRI 10853*, *FRI 12063* (holotype KEP!; K, L), *FRI 12131*.

PAHANG: Ulu Sg. Kelu *FRI 10880*; main ridge G. Tapis *FRI 10148*, *FRI 10149*.

P. grandiflora Kochummen **sp. nov.**

Fig. 3

Arbor 27 m magna alta, foliis chartaceis, obovatis vel obovato-ellipticis, apice acuminato, basi cuneato, supra glabra, subtus glabra, nervis lateralibus 3-paribus, petiolis gracilis; paniculis paucifloris floribus magnis petalis 11 mm longis staminibus multitudinis (c. 150) libris, ovario 5-costato; fructibus ignotis.

The few large flowers and numerous free stamens at once distinguish this species.

TRENGGANU: Bt Bauk *FRI 3951*; Ulu Dungun nr Sg. Bebir (= Ulu Sg. Loh nr K. Datok) *FRI 9667*, *FRI 9675*, *FRI 9683* (holotype KEP!; K, L, SING), *FRI 12013*; State land Jerangau *KEP 79785*.

Schoutenia

Schoutenia furfuracea Kochummen **sp. nov.**

Fig. 4

Arbor, ramulis juvenilibus dense-pilosis, foliis coriaceis oblongis, 16 – 26.5 × 6.5 — 10.5 cm, apice acuminato, basi inaequali rotundato vel cordato, supra glabra, costa basim versus dein piloso excepta, subtus dense-pilosis, nervis depressis, petiolo crasso 4-8 mm longo 3 mm diam; floribus ignotis; calyce in fructu campanulato, stellato-piloso, interius glabro, disco glabro, staminibus c. 40; fructibus globosis dense-pilosis stylo glabro.

PAHANG: Rompin, Ulu Sg. Anak Endau *FRI 8042* (holotypus KEP!; A, K, L, SING).

Very distinctive in the red hairy twigs, short stout petioles and large leaves.

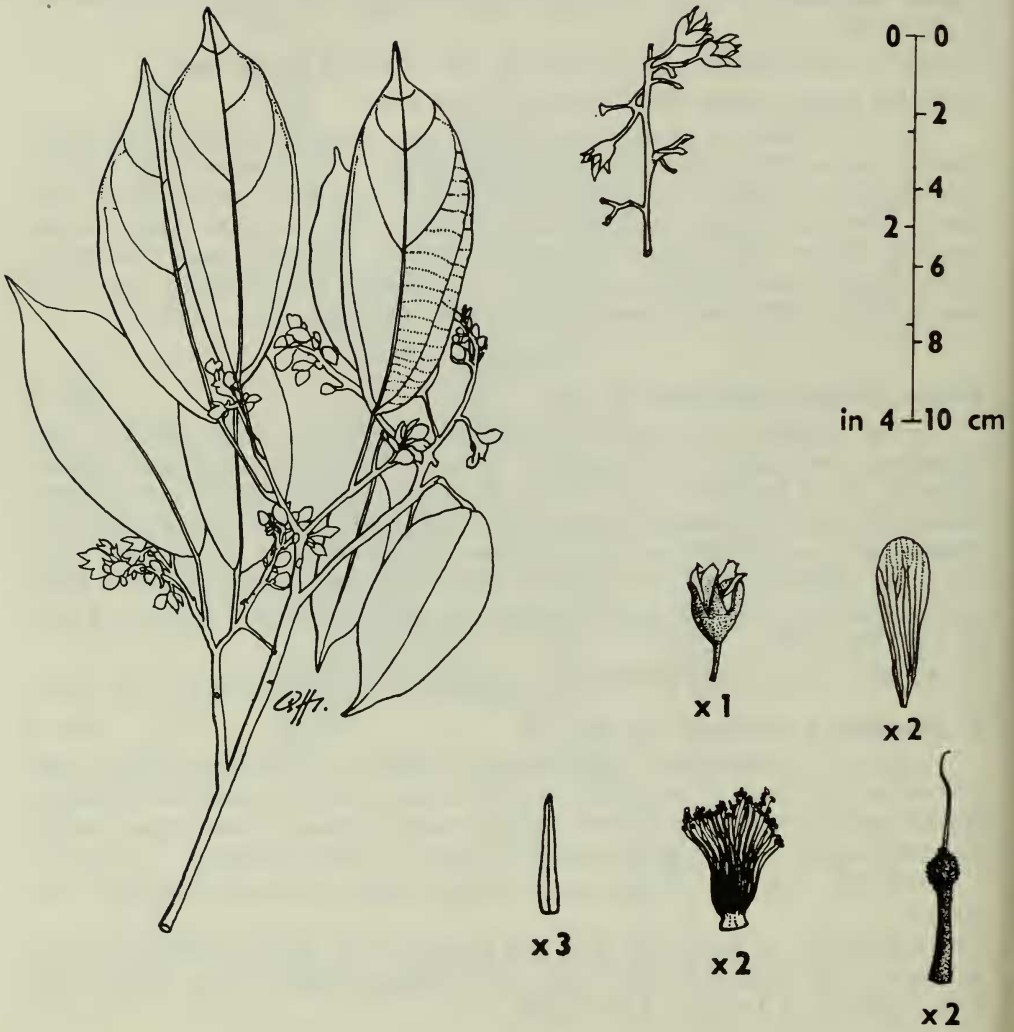


Fig. 3. *Pentace grandiflora* Kochummen (fruiting twig FRI 12013 flower FRI 9683, type).

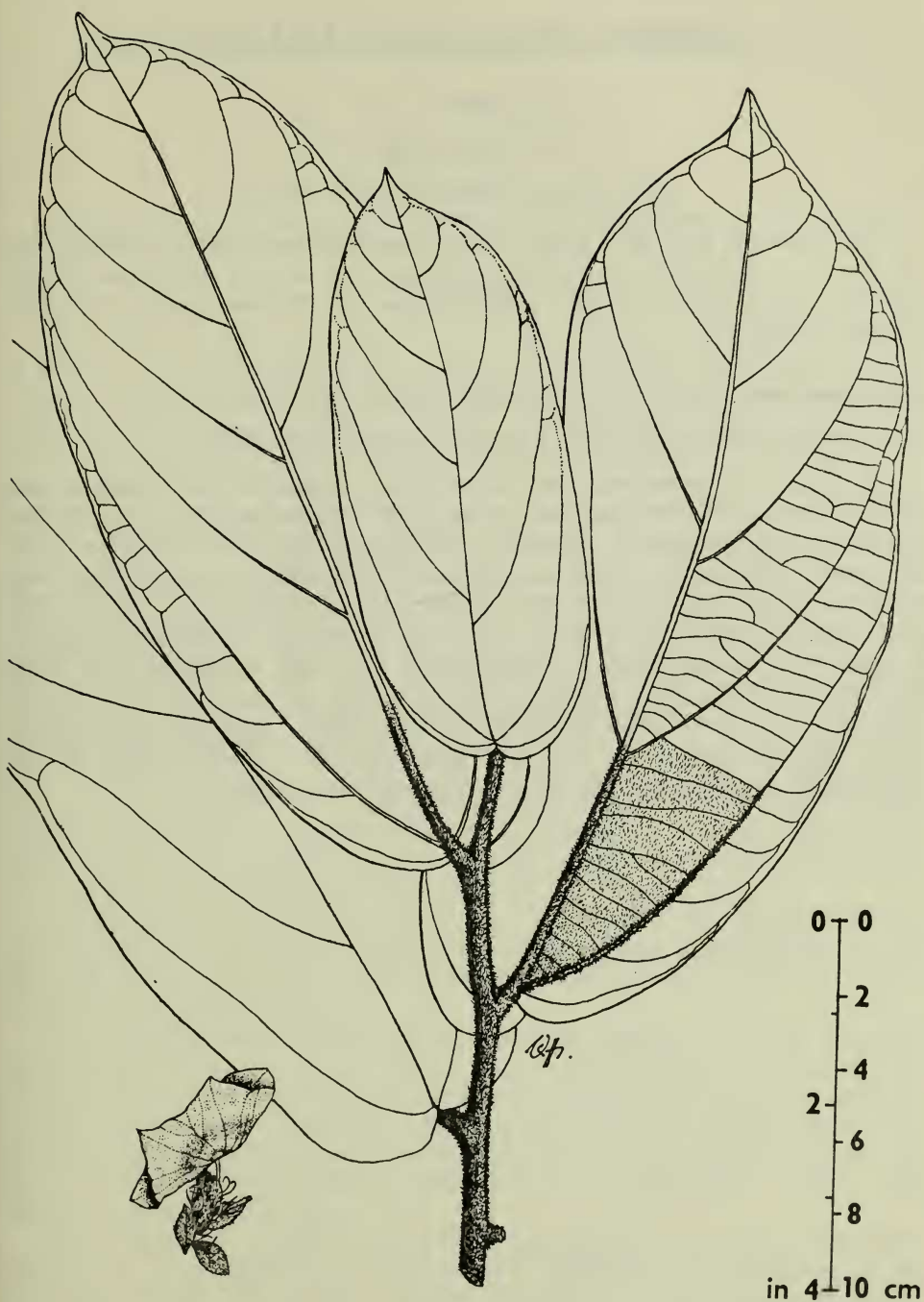


Fig. 4. *Schoutenia furfuracea* Kochummen (FRI 8042, type); inset: fruit with persistent bracts.